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EXAMINER	
LUGO, DAVID B	

ART UNIT	PAPER NUMBER
2634	9

DATE MAILED: 11/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/476,770	SHENOI, KISHAN	
	Examiner	Art Unit	
	David B. Lugo	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 January 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 13-39* is/are rejected.

7)☒ Claim(s) *12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 April 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4,5,8* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 4/14/03, Paper No. 8, is a duplicate of the IDS submitted 10/5/01, Paper No. 5. All references have been crossed off of the IDS filed 4/16/03, as they have been considered and initialed by the Examiner in Paper No. 5.

2. On the IDS submitted 6/28/01 (Paper No. 4), Korean Patent Document No. 0065094 (B2) and all references listed under "Other Art" (C1-C27) have been crossed off, as copies were not available to the Examiner. All U.S. Patents listed have been considered.

Drawings

3. The drawings are objected to because in Figs 1-3, blocks 100, 200 and 300 should have appropriate text labels. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 8, 22 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 8 is directed to a digital subscriber loop repeater for performing the method of claim 1, but does not recite any components or structure for performing the method, and therefore does not clearly define the repeater.

7. Claims 22 and 36 provide for the use of the digital subscriber loop repeater of claim 14 and the digital subscriber loop of claim 26, respectively, but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 22 and 36 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1-4, 8, 14-33 and 35-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Erreygers U.S. Patent 6,236,664.

12. Regarding claim 1, Erreygers discloses a DSL repeater unit 50 that increases the gain of a digital subscriber loop signal (see col. 5, lines 43-59, Figs. 2 and 3).

13. Regarding claim 2, the gain of the DSL signal is increased with ADSL repeater 60.

14. Regarding claim 3, the gain of the digital subscriber loop signal is amplified in ADSL transceiver 62 (col. 5, lines 49-53).

15. Regarding claim 4, the digital subscriber loop signal is passed through filters 56 and 58.

16. Regarding claim 8, Erreygers discloses a repeater unit 50 for performing the method of increasing a gain of the DSL signal.

17. Regarding claim 14, Erreygers discloses a DSL repeater 50 comprising an amplifier (see col. 5, lines 49-53).

18. Regarding claim 15, the DSL repeater unit 50 comprises ADSL repeater 60.

19. Regarding claim 16, the repeater comprises a pass filter 56 coupled to an input of the amplifier in ADSL repeater 60.

20. Regarding claim 17, the repeater comprises a pass filter 58 coupled to an output of the amplifier in ADSL repeater 60.

21. Regarding claim 18, the amplifier in ADSL transceiver 64 is considered an upstream amplifier (col. 5, lines 53-56).

22. Regarding claim 19, pass filter 58 is coupled to an input of the upstream amplifier.

23. Regarding claim 20, pass filter 56 is coupled to an output of the upstream amplifier.

24. Regarding claim 21, Erreygers teaches a digital subscriber loop with DSL repeater 70.

25. Regarding claim 22, Erreygers teaches a method utilizing DSL repeater 70.

26. Regarding claim 23, the DSL repeater is considered to be part of a kit.

27. Regarding claim 24, the ADSL repeater 60 comprising the amplifier is supplied power via power supply 66.

28. Regarding claim 25, ADSL transceiver 62 comprising the amplifier comprises a control information connection coupled thereto from controller 68.

29. Regarding claim 26, Erreygers teaches a digital subscriber loop comprising a digital subscriber loop repeater 50.

30. Regarding claim 27, the digital subscriber loop comprises an asymmetric digital subscriber loop and the DSL repeater 50 comprises an ADSL repeater 60.

31. Regarding claim 28, the digital subscriber loop repeater comprises an amplifier in ADSL transceiver 62 (col. 5, lines 49-53).

32. Regarding claim 29, the DSL repeater includes a pass filter 56 coupled to an input of the amplifier.

33. Regarding claim 30, the DSL repeater includes a pass filter 58 coupled to an output of the amplifier.

34. Regarding claim 31, the amplifier in ADSL transceiver 64 is considered an upstream amplifier (col. 5, lines 53-56).

35. Regarding claim 32, pass filter 58 is coupled to an input of the upstream amplifier.

36. Regarding claim 33, pass filter 56 is coupled to an output of the upstream amplifier.

37. Regarding claim 35, Erreygers teaches a low pass filter 54 coupled to a digital subscriber loop repeater 60 and a high pass filter 56 coupled to the DSL repeater 60.

38. Regarding claim 36, Erreygers teaches a method utilizing the digital subscriber loop.

39. Regarding claim 37, the DSL loop is part of a DSL network.

40. Regarding claim 38, the DSL repeater includes a power connection via power supply 66.

41. Regarding claim 39, the digital subscriber loop repeater includes a control information connection via controller 68.

42. Claims 1-4, 8, 14, 15, 17, 18, 21-24, 26-28, 30, 31 and 36-38 are rejected under 35 U.S.C. 102(e) as being anticipated by McGinn et al. U.S. Patent 6,262,972.

43. Regarding claim 1, McGinn et al. disclose a DSL repeater unit 204 that increases the gain of a digital subscriber loop signal via receive line driver 156 (see col. 3, lines 45-50, Fig. 4).

44. Regarding claim 2, the gain of the DSL signal is increased with ADSL repeater 204.

45. Regarding claim 3, the gain of the digital subscriber loop signal is amplified in receive line driver 156.

46. Regarding claim 4, the digital subscriber loop signal is supplied to DDMD 160, which performs various filtering functions (col. 3, lines 47-50).

47. Regarding claim 8, McGinn et al. disclose a repeater unit 204 for performing the method of increasing a gain of the DSL signal.

48. Regarding claim 14, McGinn et al. disclose a DSL repeater 204 comprising an amplifier (receive line driver 156).

49. Regarding claim 15, repeater unit 204 is considered an ADSL repeater.

50. Regarding claim 17, the digital subscriber loop signal output from receive line driver 156 is supplied to DDMD 160 which performs various filtering functions (col. 3, lines 47-50).

51. Regarding claim 18, the receive line driver 156 receiving input 208b is considered an upstream amplifier (see Fig. 4).

52. Regarding claim 21, McGinn et al. teach a digital subscriber loop with DSL repeater 204.

53. Regarding claim 22, McGinn et al. teach a method utilizing DSL repeater 204.

54. Regarding claim 23, the DSL repeater is considered to be part of a kit.

55. Regarding claim 24, the amplifier inherently comprises a power connection.

56. Regarding claim 26, McGinn et al. teach a digital subscriber loop comprising a digital subscriber loop repeater 204.

57. Regarding claim 27, the digital subscriber loop is considered an asymmetric digital subscriber loop and the DSL repeater 204 is considered an ADSL repeater.

58. Regarding claim 28, the digital subscriber loop repeater comprises an amplifier (receive line driver 156).

59. Regarding claim 30, the digital subscriber loop signal output from upstream amplifier 156 is supplied to DDMD 160, which performs various filtering functions.

60. Regarding claim 31, the receive line driver 156 receiving input 208b is considered an upstream amplifier (see Fig. 4).

61. Regarding claim 36, McGinn et al. teach a method utilizing the digital subscriber loop.

62. Regarding claim 37, the DSL loop is part of a DSL network.

63. Regarding claim 38, the DSL repeater inherently includes a power connection.

Claim Rejections - 35 USC § 103

64. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

65. Claims 5 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erreygers in view of Conroy et al. U.S. Patent 6,459,684.

66. Regarding claims 5 and 34, Erreygers teaches a digital subscriber loop repeater for increasing a gain of a DSL signal (col. 5, lines 43-59, Figs. 2 and 3), but does not expressly disclose that the DSL signal is processed with an echo cancellation filter.

67. Conroy et al. teach an echo cancellation filter 614 for processing a received DSL signal.

68. It would have been obvious to one of ordinary skill in the art to use an echo cancellation filter as taught by Conroy et al. in the system of Erreygers for correcting errors in the received signal, as stated by Conroy et al. in column 3, lines 53-59.

69. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tzannes et al. U.S. Patent 5,751,716 in view of Erreygers.

70. Regarding claims 6 and 7, Tzannes et al. disclose an ADSL system in which the frequencies used to transmit the upstream and downstream signals are separated (col. 1, lines 60-65), wherein on the receiving end of the transmission link, the signals are low-pass filtered to reduce the effects of high-frequency noise transients (col. 4, lines 1-5).

71. Tzannes et al. do not disclose a repeater for increasing the gain of the digital subscriber loop signal.

72. Erreygers discloses a DSL repeater unit 50 that increases the gain of a digital subscriber loop signal (col. 5, lines 43-59, Figs. 2 and 3).

73. It would have been obvious to one of ordinary skill in the art to use a repeater as taught by Erreygers in the system of Tzannes et al. in order to efficiently implement ADSL over long distances (see abstract).

74. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Erreygers in view of Adler U.S. Patent 4,939,747.

75. Regarding claim 9, Erreygers teaches a digital subscriber loop repeater for increasing a gain of a DSL signal (col. 5, lines 43-59, Figs. 2 and 3), but does not expressly disclose that the repeater is remotely fine-tuned using control signals sent to the repeater.

76. Adler teaches an addressable repeater where the gain of a repeater is remotely fine-tuned via control signals sent from a central location (see col. 6, lines 23-28).

77. It would have been obvious to one of ordinary skill in the art use the teaching of remotely fine tuning a repeater, as disclosed by Adler, in the system of Erreygers, so the repeater be optimized for various transmission characteristics.

78. Claims 10, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erreygers in view of Pesetski et al. U.S. Patent 6,151,691.

79. Regarding claim 10, Erreygers teaches a digital subscriber loop repeater for increasing a gain of a DSL signal (col. 5, lines 43-59, Figs. 2 and 3), but does not expressly disclose that the repeater is remotely reconfigured using control signals sent to the repeater.

80. Pesetski et al. disclose a repeater receiving control signals and configuring itself accordingly (see col. 5, lines 49-61).

81. It would have been obvious to one of ordinary skill in the art to employ the teaching of remotely controlling a repeater, as disclosed by Pesetski et al., in the repeater of Erreygers, in order for a technician to test the repeater to see if it is functioning properly.

82. Regarding claim 11, Erreygers teaches a digital subscriber loop repeater for increasing a gain of a DSL signal (col. 5, lines 43-59, Figs. 2 and 3), but does not expressly disclose that the repeater is queried in order to control the repeater or determine its status.

83. Pesetski et al. disclose a repeater that receives a coded query signal in order to control operation of the repeater or determine its status (see col. 6, line 30 to col. 7, line 18).

84. It would have been obvious to one of ordinary skill in the art to employ the teaching of querying the repeater, as disclosed by Pesetski et al., in the system of Erreygers such that more efficient testing and repair of the lines may be effected (see Pesetski et al., col. 3, lines 1-4).

85. Regarding claim 13, Pesetski et al. further teach that the repeater may enter into a loop-back mode (col. 6, lines 46-48).

Allowable Subject Matter

86. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

87. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Norrell et al. US Patent Application Publication 2002/0141569 disclose a DSL repeater including POTS loading coils.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David B. Lugo** whose telephone number is **(703) 305-0954**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at **(703) 305-4714**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

P.O. Box 1450

Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

dbl
11/5/03

YOUNG T. TSE
PRIMARY EXAMINER